

Eosinophilic gastroenteritis due to egg allergy presenting as acute pancreatitis

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ABSTRACT

We describe a case of a 25-year-old female with newly diagnosed egg allergy, presenting with both peripheral and duodenal eosinophilia suspicious for eosinophilic gastroenteritis (EG). The EG was severe enough to have likely caused acute pancreatitis. Cessation of all egg products lead to resolution of all symptoms. This represents the first report of EG manifesting as pancreatitis due to egg ingestion.

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We report a case of eosinophilic gastroenteritis (EG) due to egg hypersensitivity, with an unusual first presentation of pancreatitis. EG is a disease characterized by eosinophilic infiltration of any portion of the gastrointestinal (GI) tract. Symptoms are typically nonspecific, including nausea, vomiting, abdominal pain, malabsorption, weight loss, and ascites. Recently, several publications have reported rare presenting symptoms, including obstructive jaundice¹ and pancreatitis.^{2–4} At least one report linked EG and acute pancreatitis with ingestion of cow's milk.⁵

CASE REPORT

A 25-year-old previously non-atopic female, with no history of recent travel outside the United States, reported a history of intermittent GI symptoms (vomiting, pain, and diarrhea within 60 minutes of eating) for the previous four months. Despite enjoying eggs for most of her life uneventfully, a careful clinical history revealed that each episode was associated with consumption of egg products. The first two episodes occurred within 30 minutes of eating an egg sandwich or a hamburger with an egg-containing bun. Both times the patient experienced abdominal pain radiating to the left upper quadrant and chest, prompting an emergency room visit where labs were normal, including a complete blood count with differential and lipase. A third episode occurred after she ate scrambled eggs.

Subsequent emergency room evaluation revealed a lipase of 2400 U/L and peripheral eosinophilia at 23.3% (2300 eosinophils [eos]/ μ L). Conservative management for acute pancreatitis was initiated, including nothing by mouth, pain medications (hydromorphone), anti-nausea medications (ondansetron), and acid-suppressant (omeprazole).

The eosinophilia persisted throughout her admission and for the subsequent week, peaking at 26% (2500 eos/ μ L). A right upper quadrant ultrasound, abdominal CT, and MRCP did not show evidence of biliary dilatation or obstruction that would have suggested the presence of gallstones. Other causes of pancreatitis, including alcohol and medications, were ruled out. Endoscopic evaluation showed normal appearing mucosa, and esophageal biopsies were normal. However, a biopsy of the duodenum revealed 80 eos/high powered field (Fig. 1). A stool sample for ova and parasite was negative except for the presence of Charcot Leyden crystals, suggesting an underlying GI eosinophilic process. Suspecting that the patient's symptoms were being triggered by egg ingestion, *in vitro* allergy testing was performed and demonstrated a positive egg-specific IgE level at 6.25 kU/L (all other tested foods were negative, total IgE 89.7 kU/L).

The patient was discharged on day two of admission, still with some mild, residual abdominal discomfort. She was instructed to strictly avoid all egg products. At the one-month follow-up, the patient reported having no recurrence of abdominal pain except upon several incidents of accidental ingestion of eggs. Complete removal of egg from the patient's diet has lead to resolution of her symptoms. Peripheral eosinophilia completely resolved by several weeks after eliminating eggs from her diet. Unfortunately, this patient was eventually lost to follow-up, and subsequent duodenal biopsies to show resolution of eosinophilia were not able to be performed.

This is the first report of egg-associated EG presenting with acute pancreatitis. One previous case report

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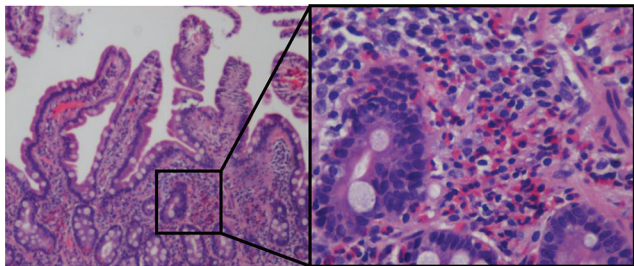


Figure 1. Photomicrograph of duodenal wall biopsy showing infiltration of eosinophils. Low- and high (inset)-power magnification of duodenal biopsy specimen obtained during acute episode of pancreatitis. Region shown by high-power magnification is boxed, and reveals numerous eosinophils (80 high powered field), consistent with the diagnosis of EG. No villous blunting was seen.

discussed a patient with milk allergy that resulted in EG and acute pancreatitis.⁵ A possible mechanism by which food hypersensitivity-related EG may cause acute pancreatitis is due to obstruction of the pancreatic duct from local duodenal inflammation.^{2,3} Review of the literature shows that CT findings are variable, ranging from relatively normal^{4,5} to showing evidence of common bile duct dilatation.² MRCP in the patient with milk-triggered EG and pancreatitis was normal,⁵ as it was also in our patient. A common feature among patients with EG-related pancreatitis is peripheral eosinophilia.³⁻⁵

The differential diagnosis for patients with acute abdominal pain and peripheral eosinophilia would include parasitic infection and hypereosinophilic syn-

drome. However, the ova and parasite was negative for parasites, and the peripheral eosinophilia was transient and completely resolved after removal of egg from her diet. Thus, the diagnosis of EG of the duodenum due to egg consumption was the most likely, and the patient was not subjected to tests such as an echocardiogram, or bone marrow biopsy, as part of a hypereosinophilic syndrome workup.

Our case highlights the importance of a rigorous dietary history when evaluating patients with unusual food-related symptoms. It also supports the hypothesis that pancreatitis may be triggered by EG when the duodenum is involved and should be considered in the differential diagnosis in patients with nonspecific GI symptoms, positive food allergy tests, and peripheral eosinophilia.

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